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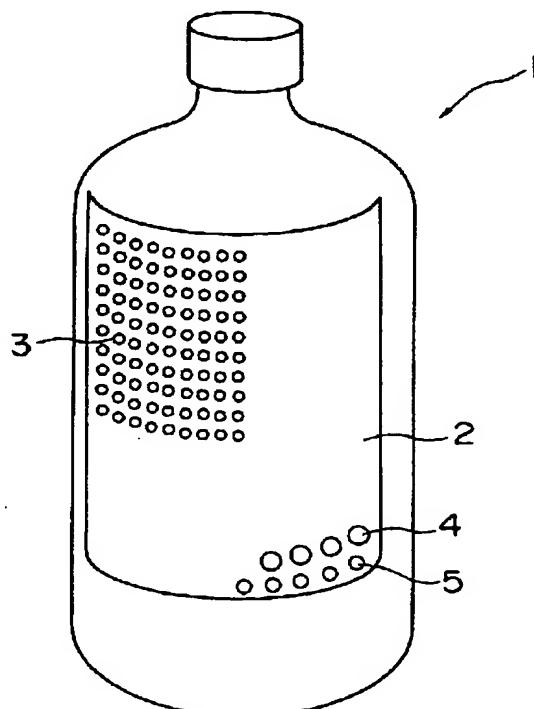
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(54)【発明の名称】 ラベル貼着容器の製造方法

(57)【要約】

【課題】 容器内の内容物の種類や等級毎にエンボス、穿孔、ミシン目、点字等の識別マークをラベルに施して、盲人等の目の不自由な人にも識別可能にしたラベル貼着容器の製造方法を提供する。

【解決手段】 空孔率が5~60%の微多孔性樹脂延伸フィルムの表面に、(i)線番40~200本のエンボス模様、(ii)穿孔、(iii)ミシン目、(iv)点字、(v)発泡インキによる印刷から選ばれた少なくとも一種類の識別マークを施したラベルを、該識別マークが金型壁に接するよう金型内に配置した後、該金型内でインモールド成形を行なって、該ラベルを樹脂製容器に一体に融着させることを特徴とするラベル貼着容器の製造方法。



## 【特許請求の範囲】

【請求項 1】 空孔率が 5 ~ 60 % の微多孔性樹脂延伸フィルムの表面に、(i) 線番 40 ~ 200 本のエンボス模様、(ii) 穿孔、(iii) ミシン目、(iv) 点字、(v) 発泡インキによる印刷から選ばれた少なくとも一種類の識別マークを施したラベルを、該識別マークが金型壁に接するように金型内に配置した後、該金型内でインモールド成形を行なって、該ラベルを樹脂製容器に一体に融着させることを特徴とするラベル貼着容器の製造方法。

【請求項 2】 インモールド成形が、識別マークを金型壁に接するように配置した後、該金型内に、溶融樹脂シートを導いて真空成形又は圧空成形、或いは、溶融パリソンを導いて中空成形、或いは、溶融樹脂を射出成形する、請求項 1 に記載のラベル貼着容器の製造方法。

## 【発明の詳細な説明】

## 【0001】

【発明の属する技術分野】 本発明は、盲人等の目の不自由な人にでも識別することができる識別マークを施したラベルを樹脂製容器に一体に融着したラベル貼着容器の製造方法に関するものである。

## 【0002】

【従来の技術】 従来、通常の容器は、容器内の内容物の種類や製造メーカー等を表示するために印刷が施されたラベルが貼着されており、購入者や使用者はそれらラベルの絵柄や文字の表示を目で確認してから購入や使用がなされている。しかし、盲人等の目の不自由な人には、これらラベルの表示を目で確認することができないことから、その容器の形状等を手の感触で読み取ったり、目の見える人にラベルを読んで貰ってからでないと、購入することや使用をすることができなかった。そのためには、製造メーカーでは盲人等の目の不自由な人にも容易に購入することができるよう、その内容物の種類や等級等毎に容器本体の形状を変更したり、容器の蓋の形状等を変更して、容器本体に特殊なリブ形状の突起物等の目印を付けることがなされていた。例えば、特開昭 63-317462 号公報、特開平 1-267159 号公報、及び、特開平 2-13932 号公報に記載の発明には、その容器に凹凸のレリーフ（彫刻）の形状等を設けて手の感触で読み取ることが記載されている。

## 【0003】

【発明が解決しようとする課題】 しかし、このように容器本体の形状を変更したり、容器の蓋の形状等を変更して、容器本体に特殊な目印を付けることは、その容器内の内容物の種類や等級毎に容器の成形用金型を変更しなければならず、その結果として、容器成形用金型の種類が多くなり、このことが製品のコストアップに影響を与えていた。

## 【0004】

【課題を解決するための手段】 本発明者は、上記問題点に鑑みて、容器本体や蓋の形状を変更したり、容器本体

に特殊な目印を付けずに、内容物を識別することができないか鋭意研究を重ねた結果、識別マークを施したラベルを使用して樹脂製容器を成形することによりコストに影響の少ないラベル貼着容器が得られるとの知見に基づき本発明を完成するに至ったものである。すなわち、本発明のラベル貼着容器の製造方法は、空孔率が 5 ~ 60 % の微多孔性樹脂延伸フィルムの表面に、(i) 線番 40 ~ 200 本のエンボス模様、(ii) 穿孔、(iii) ミシン目、(iv) 点字から選ばれた少なくとも一種類の識別マークを施したラベルを、該識別マークが金型壁に接するように金型内に配置した後、該金型内でインモールド成形を行なって、該ラベルを樹脂製容器に一体に融着させることを特徴とするものである。

## 【0005】

## 【発明の実施の形態】

## [1] ラベル貼着容器

## (1) 容器本体

## (a) 素材

本発明のラベル貼着容器の製造方法において、ラベルの貼着と容器の成形を金型内で一体にするインモールド成形に使用される容器本体用の素材としては、中空成形、射出成形、差圧成形（真空成形、圧空成形）、プレス成形、発泡成形などの成形方法によって各種容器を製造する際に使用される公知の熱可塑性樹脂を使用することができるが、特に融点が 135 ~ 264 ℃ の熱可塑性樹脂を用いることが好ましい。このような熱可塑性樹脂の具体例としては、ポリプロピレン、密度 0.880 ~ 0.965 g/cm<sup>3</sup> のポリチレン、ポリスチレン、ポリアクリロニトリル、ポリ塩化ビニル、ポリエチレンテレフタレート、ポリアミド、ポリカーボネートなどを挙げることができる。これら熱可塑性樹脂の中では特にポリプロピレン、高密度ポリチレンを使用することが好ましい。また、積層体として用いても良いし、二種以上をブレンドして用いても良い。

## 【0006】 (b) 形状

上記容器の形状としては、種々の形状のものを使用することができる。

## 【0007】 (2) ラベル

本発明のラベル貼着容器の製造方法に用いられ、上記容器に融着して一体になるラベルとしては、下記の構造及び素材からなる識別マークを施したインモールド成形用の微多孔性樹脂延伸フィルムよりなるラベルが用いられる。

## 【0008】 (a) 構造

上記識別マークを施したラベルは、その構造が、基材層と、該基材層の裏面側に積層されたヒートシール性樹脂よりなる接着層とから基本的に構成される二層構造のもの、或いは、更に、表面側に無機微細粉末を含有する樹脂フィルムの一軸延伸物の紙状層を形成した三層構造としたもの、或いは、更に多層構造としたものなどであ

る。このようなラベルは、金型内で容器に貼着される前は紙片状であるが、貼着後は容器と一体となる。より具体的には以下に示す構造のラベルを使用することが好ましい。

#### 【0009】① 基材層

通常、基材層と接着層とから構成され、該基材層として用いられる材料としては、ポリプロピレン、線状ポリエチレン、高密度ポリエチレン、ポリスチレン、ポリアクリロニトリル、ポリ塩化ビニル、ポリエチレンテレフタレート、ポリカーボネート、ポリアミドなどの融点が135~264℃の熱可塑性樹脂に、無機微細粉末を8~65重量%含有させた樹脂フィルム、或いは、該樹脂フィルムの表面上に無機充填剤含有ラテックスを塗工させたフィルム、或いは、前記樹脂フィルムにアルミニウム又はSiO<sub>2</sub>を蒸着させたものなどを挙げることができる。このような基材層は単層であっても、或いは、二層以上の積層された構造であっても良い。

#### 【0010】② 接着層

前記基材層の樹脂フィルムの裏面側（樹脂容器と接する側）には、接着層となる低密度ポリエチレン、酢酸ビニル・エチレン共重合体、エチレン・（メタ）アクリル酸共重合体、エチレン・（メタ）アクリル酸共重合体の金属塩などの、融点が85~135℃のヒートシール性樹脂よりなるフィルム層が積層される。このヒートシール性樹脂フィルム層の積層によって、ラベルと樹脂容器との接着をより強固にさせることができる。

#### 【0011】(b) 素材（構成材料）

本発明のラベル貼着容器の製造方法におけるラベルとして用いられる素材としては、空孔率が5~60%、好ましくは10~45%の微多孔性樹脂延伸フィルムが用いられる。上記構造のラベルの場合の素材としては、例えば、以下の如くとなる。

#### 【0012】① 基材層

基材層として用いられる材料としては、ポリプロピレン、高密度ポリエチレン、中密度ポリエチレン、直鎖状ポリエチレン、ポリ塩化ビニル、ポリエチレンテレフタレート、ポリブチレンテレフタレートなどのポリエステル、ポリアミドなどの融点が127~264℃の熱可塑性樹脂に、無機微細粉末を8~65重量%含有させた樹脂フィルム、或いは、該樹脂フィルムの表面上に無機充填剤含有ラテックスを塗工させたフィルム、或いは、前記樹脂フィルムにアルミニウム、SiO<sub>2</sub>等を蒸着させたものなどを挙げることができる。このような基材層は単層であっても、或いは、二層以上の積層された多層構造のフィルムであっても良い。このような多層構造の樹脂フィルムの場合には共押出しによる方法やラミネートによる方法によって積層することができる。

#### 【0013】② 接着層

前記基材層の樹脂フィルムの裏面側（樹脂容器と接する側）には、該基材層の素材樹脂（A）の融点より20℃

以上の低い温度、好ましくは78~145℃の融点を有する熱可塑性樹脂の単独又は2種以上の混合物（B、B'）よりなるヒートシール性樹脂が使用される。ここで熱可塑性樹脂の融点とは、試料樹脂3~10mgを、示差熱走査分析計（DSC）で昇温速度5℃/分で測定したときのDSC曲線のピークの温度である。

【0014】このようなヒートシール性樹脂組成物としては、高密度ポリエチレン、中密度及び低密度ポリエチレン、直鎖線状ポリエチレン、エチレン・酢酸ビニル共重合体、エチレン・アクリル酸共重合体、エチレン・アクリル酸アルキルエステル共重合体、エチレン・メタクリル酸アルキルエステル共重合体（アルキル基の炭素数は1~8）、エチレン・メタクリル酸共重合体の金属塩（Zn、Al、Li、K、Na）等のエチレン系樹脂が用いられる。特にパリソンの樹脂（C）がポリプロピレンや高密度ポリエチレンの場合、直鎖線状低密度ポリエチレン（密度：0.88~0.94g/cm<sup>3</sup>、メルトイソティックス：0.05~30g/10分）10~55重量%と、低密度ポリエチレン、エチレン・メタクリル酸共重合体、エチレン・アクリル酸共重合体、エチレン・酢酸ビニル共重合体より選ばれた樹脂の一種以上90~45重量%との混合物が良好である。該ヒートシール性樹脂層は透明なフィルムでもよく、未延伸であっても延伸されていてもよい。好ましくは延伸されていても結晶配向していないことがよい。前記エンボス加工後の積層構造フィルムは、少なくとも一方向に、通常3.5~12倍、好ましくは4~10倍に延伸される。該延伸は基材層の樹脂の融点よりも低い温度で、かつヒートシール性樹脂の融点以上の温度で行われる。この延伸によって基材層は配向されるが、ヒートシール性樹脂層は配向されない。

#### 【0015】(c) 延伸

上記基材層にヒートシール性樹脂を積層した積層フィルムは、少なくとも一方向に延伸される。該延伸は通常3~12倍、好ましくは4~10倍に、特に好ましくは縦方向に3.5~10倍、好ましくは4~7倍、横方向に3.5~12倍、好ましくは5~10倍に延伸される。

#### 【0016】(d) 肉厚

ラベルの総肉厚は、一般に30μm~300μm、好ましくは45~200μmである。この内ヒートシール性樹脂を有するラベルの接着剤層の厚みは一般に1~30μm、好ましくは2μm~20μmである。

#### 【0017】(e) その他の処理

前記延伸後の積層フィルム（合成紙）は、必要であれば、コロナ放電加工、火炎処理、プラズマ処理などを施すことによって、表面の印刷性、接着性を改善しておくことができる。また、前記基材層の表面側、例えば紙状層には、通常印刷が施される。この様な印刷としては、グラビア印刷、オフセット印刷、フレキソ印刷、スクリーン印刷などがあり、これによって、商品名、製造元、

販売会社名、キャラクター、バーコード、使用方法などを印刷することができる。

#### 【0018】(f) 識別マーク

本発明のラベル付容器の製造方法に用いられるラベルには識別マークが設けられていることが重要である。該識別マークとしては、線番40～200（1インチ当たりの線の本数）のエンボス模様、1～10mmΦの穿孔、ミシン目、点字、発泡インキによる印刷等を挙げることができる。これら識別マークは少なくとも一種類の識別マークを単独又は併用して用いることができる。

【0019】(i) 線番40～200本のエンボス模様  
線番40～200本のエンボス模様としては、線状、台形、格子等である。

#### (ii) 穿孔

穿孔としては、例えば、1～10mm、好ましくは2～6mm程度の孔を開けたものである。孔の形状としては丸、四角、三角、星型等の各種の形状とすることができます。

#### (iii) ミシン目

ミシン目としては、1～5mm、好ましくは2～3mm程度の間隔で、幅0.3～1mm、好ましくは0.3～0.6mm程度の大きさの細孔を連続して穿けることができる。

#### (iv) 点字

点字としては、2～5mm、好ましくは3～4mm程度の間隔で、3×3～12×12mm角、好ましくは5×5～10×10mm角程度の大きさのエンボスを設ける。

#### 【0020】(g) 抜打加工

上記印刷・識別マークが施された容器用ラベルは、抜打加工により必要な形状、寸法のラベルに分離される。このラベルは容器表面の一部に貼着される部分的なものであっても良いが、通常はカップ状容器の側面部を取り巻くプランクとして形成することができる。

#### 【0021】(II) インモールド成形

##### (1) 配置

上記識別マークを備えるラベルを樹脂製容器と一緒にするために、該識別マークがインモールド成形用金型内の壁面と接する様に配置させた後に、インモールド成形が実施される。

#### 【0022】(2) 成形

ラベルを樹脂製容器に一体となる様に融着させるための上記インモールド成形としては、真空成形、圧空成形、中空成形、マッチドダイ成形、又は、射出成形を挙げることができる。

##### (a) 真空成形又は圧空成形

識別マークをインモールド成形用金型内の壁面と接する様に配置させた後に、該溶融樹脂シートを金型内に導いて、減圧にして、又は、圧空ガスを用いる公知の真空成形及び／又は圧空成形の方法で実施される。

#### 【0023】(b) 中空成形

識別マークをインモールド成形用金型内の壁面と接する様に配置させた後に、溶融パリソンを金型内に導いて、公知の中空成形の方法で実施される。

##### 中空容器の製造

具体的には、例えば、予め前記ラベルの識別面を金型面に、接着層側を金型内壁面の内側に向けてインサートした後、該金型内に押出機によって溶融混練させたポリプロピレン樹脂あるいは高密度ポリエチレン樹脂など熱可塑性樹脂のパリソンを170℃～250℃の温度で垂下して、その一端を型締めにより封止した後、該パリソンの内部に0.5～10kg/cm<sup>2</sup>G、好ましくは2～5kg/cm<sup>2</sup>Gの圧縮ガスを導入することによりパリソンを膨張させる。これによってパリソンの外側の面を金型の内壁に押圧して、該パリソンを金型の形状に沿った形状に成形すると共に、前記金型の内壁にインサートされたラベルの接着層に溶融したパリソンを接着させて、ラベルの接着層の樹脂を溶融してパリソンとラベルの接着層とを融着させた後、冷却して、金型を開き、ラベル付きの中空成形容器を金型より取り出して製造する。

#### 【0024】(c) 射出成形

識別マークをインモールド成形用金型内の壁面と接する様に配置させた後に、溶融樹脂を射出成形する通常の射出成形法により、ラベルを樹脂製容器に一体に融着させることができる。

#### 【0025】(III) ラベル貼着容器

以上のようにして製造されたラベル付容器は、プリスターの発生の少ない良好なもので、成形サイクルが短く成形コストも安価であることから、シャンプー容器、食用油瓶、モーターオイル容器、トイレ殺菌溶剤容器、その他生活用各種容器等の汎用容器として利用することができる。

#### 【0026】

【実施例】以下に示す実験例によって、本発明を更に具体的に説明する。

##### 実施例1～3

##### (1) インモールド用ラベルの製造

王子油化合成紙（株）製微多孔ポリプロピレン延伸フィルムよりなる合成紙「ユボFPG-80」（商品名：空孔率31%）の片面に、東洋モートン（株）製感熱型ヒートシール剤「アドコートX33P5」〔エチレン・酢酸ビニル共重合体（DSCで測定した結晶化温度58℃）のトルエン溶液〕を4g/m<sup>2</sup>の塗布量にて塗工し、乾燥し、更に、ヒートシール剤とは反対に、それぞれ（イ）ヘアーシャンプー用（実施例1）、（ロ）ヘアーリンス用（実施例2）、及び、（ハ）ボディーシャンプー用（実施例3）の印刷を施した。次いで、（イ）ヘアーシャンプー用ラベルに線番60の全面エンボスを施すと共に直径5mmの穿孔を6個開け、（ロ）ヘアーリ

ンス用ラベルに線番 100 の両側面エンボスを施すと共に直径 5 mm の穿孔を 5 個開け、(ハ) ボディーシャンプー用ラベルの 1/4 面に線番 120 のエンボスを施すと共に直径 5 mm の穿孔を 4 個及び直径 3 mm の穿孔を 5 個開けて、上記(イ)毛髪用シャンプー(実施例 1)、(ロ)ヘアーリンス(実施例 2)、及び、(ハ)ボディーシャンプー(実施例 3)の大きさをそれぞれ 10 cm × 10 cm のインモールド用ラベルとして打ち抜いて、(イ)毛髪用シャンプー用ラベル、(ロ)ヘアーリンス用ラベル、及び、(ハ)ボディーシャンプー用ラ

#### 【0027】(2) 中空成形

これらのインモールド用ラベルを、該ラベルのヒートシール剤の塗工された面(接着層)と反対側の面(表面層)が金型の壁面に接するように金型に装着させた。次いで、この金型内に三菱化学(株)製「高密度ポリエチレンBZ-50」を、(株)プラコー製「V-50型中空成形機」にて、200℃の樹脂温度でパリソンを押し出した。そして、該パリソンを、20℃の冷却水を 30 リットル/分の水量で冷却した金型で挟みつけた後、圧力 5 kg/cm<sup>2</sup> の圧縮空気をパリソン内に供給して該金型内壁にパリソンを賦形させた後、型開きして、胴直径が 60 mm、高さが 200 mm、肉厚が 1 mm の、(イ)ヘアーシャンプー用中空容器(実施例 1)、(ロ)ヘアーリンス用中空容器(実施例 2)、及び、(ハ)ボディーシャンプー用中空容器(実施例 3)として成形した。

#### 【0028】(3) 評価

上記(イ)ヘアーシャンプー用中空容器、(ロ)ヘアーリンス用中空容器、及び、(ハ)ボディーシャンプー用中空容器を予め識別法を教示しておいた全盲の人 10 名

にて試験して貰った結果、全員が全面エンボスと直径 5 mm の穿孔が 6 個開けられた容器が(イ)ヘアーシャンプー用中空容器の 600 円であり、両側面エンボスと直径 5 mm の穿孔が 5 個開けられた容器が(ロ)ヘアーリンス用中空容器の 500 円であり、及び、1/4 エンボスと直径 5 mm の穿孔を 4 個及び直径 3 mm の穿孔を 5 個開けられた容器が(ハ)ボディーシャンプー用中空容器であることを簡単に当てた。

#### 【0029】

【発明の効果】このような本発明のラベル貼着容器の製造方法は、盲人等の目の不自由な人にも識別することができる、線番 40 ~ 200 本のエンボス模様、穿孔、ミシン目、点字の識別マークが施されたラベルであることから、そのラベルを手の感触で読み取ることができるの、盲人等の目の不自由な人にも容器内の内容物を知った上で購入したり、使用することができる。従って、製造メーカーでは、容器内の内容物の種類や等級毎に容器の成形用金型を変更しなくても、単にラベルに識別マークを施せば良いので、金型の種類を少なくでき、製品のコストアップを抑制することができる。

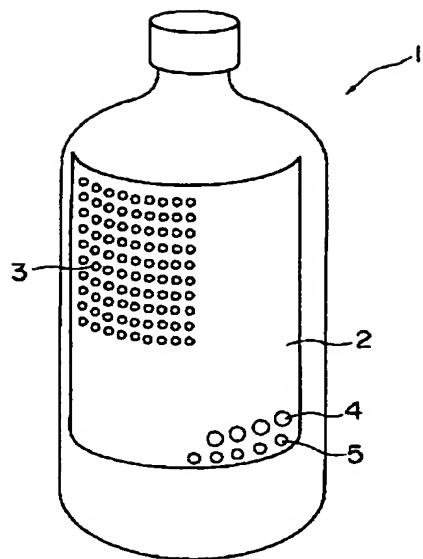
#### 【図面の簡単な説明】

【図 1】図 1 は、本発明のラベル貼着容器の製造方法にて製造されたエンボス及び大小の穿孔による識別マークを施したインモールド成形用ラベルを貼着したラベル貼着ボディーシャンプー用中空容器の斜視図である。

#### 【符号の説明】

- 1 ラベル貼着容器
- 2 インモールド用ラベル
- 3 エンボス
- 4 穿孔(大)
- 5 穿孔(小)

【図 1】



## PATENT ABSTRACTS OF JAPAN

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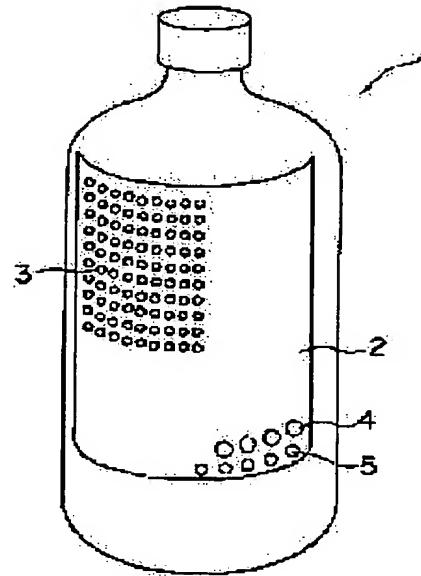
(72)Inventor : YASUDA JUNICHI

## (54) MANUFACTURE OF CONTAINER WITH LABEL FUSED

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide manufacture of a container on which a label is fused so as to be identified even by a visually handicapped person such as a blind person by providing an identification mark such as emboss, drilled hole, perforation, braille points according to the kinds or classes of the contents of container.

**SOLUTION:** A label 2, on which at least one kinds of identification marks selected from the group consisting of emboss patterns 3 of line No. (number of lines per one inch) 40~200, drilled holes, perforations, braille points, printing by means of foamed ink are formed on the surface of a porous resin stretched film having porosity of 5~60%, is placed in a die so that the identification marks contact the wall of the die, and in-mold molding is effected in the die to fuse the label 2 integrally to a container of resin.



## LEGAL STATUS

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[Date of extinction of right]

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CLAIMS

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## [Claim(s)]

[Claim 1] To the front face of a fine porosity resin oriented film whose void content is 5 – 60%, it is (i). The embossing pattern of 40–200 wire gauges, (ii) Punching (iii), A perforation, the (iv) Braille points, and (v) The label which gave at least one kind of identification marking chosen from printing in foaming ink The manufacture approach of the label attachment container characterized by performing in mould shaping within this metal mold, and making one carry out welding of this label to the container made of resin after arranging in metal mold so that this identification marking may touch a metal mold wall.

[Claim 2] The manufacture approach of a label attachment container according to claim 1 that it leads a melting resin sheet in this metal mold, draws a vacuum forming, pressure forming, or melting parison, and carries out injection molding of blow molding or the melting resin after in mould shaping arranges identification marking so that a metal mold wall may be touched.

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DETAILED DESCRIPTION

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## [Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the manufacture approach of the label attachment container which welded at one the label which gave identification marking discriminable even to a person visually handicapped [, such as a blind person, ] to the container made of resin.

[0002]

[Description of the Prior Art] Conventionally, in order that the usual container may display a class, a manufacturer manufacturer, etc. of contents in a container, the label with which printing was performed is stuck, and purchase and an activity are made after a purchaser and a user check the pattern of these labels, and the display of an alphabetic character by the eye. However, unless it was after it reads the configuration of the container etc. at the feel of a hand since the display of these labels cannot be checked by the eye, or reading and getting a label from those who can see, it is able to purchase and an activity was not able to be carried out to a person visually handicapped [, such as a blind person, ]. Therefore, by the manufacturer manufacturer, changing the configuration of the body of a container for every class of the contents or \*\*\*\*\*\*, or changing the configuration of the lid of a container etc., and putting marks, such as a projection of a special rib configuration, on the body of a container was made so that it could purchase easily also to a person visually handicapped [, such as a blind person, ]. For example, preparing the configuration of concavo-convex relief (sculpture) etc. in the container, and reading at the feel of a hand is indicated by invention given in JP,63-317462,A, JP,1-267159,A, and JP,2-13932,A.

[0003]

[Problem(s) to be Solved by the Invention] However, changing the configuration of the body of a container in this way, or changing the configuration of the lid of a container etc., and putting a special mark on the body of a container had to change the molding die of a container for every class of contents in the container, or grade, its class of container molding die increased as the result, and this had affected the cost rise of a product.

[0004]

[Means for Solving the Problem] this invention person used to come to complete this invention based on knowledge that a label attachment container with little effect is obtained by cost by fabricating the container made of resin using the label which gave identification marking, as a result of having changed the configuration of the body of a container, or a lid, or being unable to identify contents or repeating research wholeheartedly in view of the above-mentioned trouble, without putting a special mark on the body of a container. Namely, the manufacture approach of the label attachment container of this invention To the front face of a fine porosity resin oriented film whose void content is 5 – 60%, it is (i). The embossing pattern of 40-200 wire gauges, (ii) Punching (iii), The label which gave at least one kind of identification marking chosen from a perforation and the (iv) Braille points After arranging in metal mold so that this identification marking may touch a metal mold wall, it is characterized by performing in mould shaping within this metal mold, and making one carry out welding of this label to the container made of resin.

[0005]

## [Embodiment of the Invention]

[i] Label attachment container (1) Body of a container (a) Base In the manufacture approach of the label attachment container of material this invention As a raw material for the bodies of a container used for in mould shaping which makes attachment of a label and shaping of a container one within metal mold Although the well-known thermoplastics used in case various containers are manufactured by the shaping approaches, such as blow molding, injection molding, differential pressure shaping (a vacuum forming, pressure forming), press forming, and foaming, can be used, it is desirable to use the thermoplastics especially whose melting point is 135–264 degrees C. As an example of such thermoplastics, they are polypropylene, a consistency 0.880 – 0.965 g/cm<sup>3</sup>. Poly CHIREN, polystyrene, a polyacrylonitrile, a polyvinyl chloride, polyethylene terephthalate, a polyamide, a polycarbonate, etc. can be mentioned. Especially in these thermoplastics, it is desirable to use polypropylene and high density poly CHIREN. Moreover, you may use as a layered product, and two or more sorts may be blended and used.

[0006] (b) Form The thing of various configurations can be used as a configuration of the \*\* above-mentioned container.

[0007] (2) It is used for the manufacture approach of the label attachment container of label this invention, and the label which consists of a fine porosity resin oriented film for in mould shaping which gave identification marking which consists of following structure and a following raw material as a label which welds to the above-mentioned container and is united is used.

[0008] (a) Style The label which gave \*\*\*\*\* identification marking is the thing which the structure made the thing of the two-layer structure which consists of fundamentally a base material layer and a glue line which consists of heat-sealing nature resin by which the laminating was carried out to the rear-face side of this base material layer, or 3 in which the paper-like layer of the uniaxial-stretching object of a resin film which contains the end of non-subtlety fine powder in a front-face side further was formed layer systems, or the thing further made into multilayer structure. Although such a label is a slip-like before being stuck on a container within metal mold, after attachment is united with a container. It is desirable to use the label of the structure more specifically shown below.

[0009] \*\* As an ingredient which consists of base material layer usual, a base material layer, and a glue line, and is used as this base material layer polypropylene and a line — polyethylene, high density polyethylene, and polystyrene — A polyacrylonitrile, a polyvinyl chloride, polyethylene terephthalate, the resin film which made the thermoplastics whose melting points, such as a polycarbonate and a polyamide, are 135–264 degrees C contain the end of non-subtlety fine powder eight to 65% of the weight — or They are aluminum or SiO<sub>2</sub> to the film which carried out coating of the inorganic bulking agent content latex on the front face of this resin film, or said resin film. The thing made to vapor-deposit can be mentioned. Even if such a base material layer is a monolayer, it may be the structure where the laminating of [ more than a bilayer ] was carried out.

[0010] \*\* The laminating of the film layer which the melting points, such as a metal salt of the low density polyethylene used as a glue line, a vinyl acetate ethylene copolymer, ethylene and (meta) an acrylic-acid copolymer, and an ethylene and (meta) an acrylic-acid copolymer, become from the heat-sealing nature resin which is 85–135 degrees C is carried out to the rear-face side (side which touches a resin container) of the resin film of the glue line aforementioned base material layer. By the laminating of this heat-sealing nature resin film layer, adhesion with a label and a resin container can be strengthened more.

[0011] (b) Base Material (component)

As a raw material used as a label in the manufacture approach of the label attachment container of this invention, 10 – 45% of

fine porosity resin oriented film is preferably used for a void content 5 to 60%. As a raw material in the case of the label of the above-mentioned structure, it becomes being the following, for example.

[0012] \*\* As an ingredient used as a base material layer base material layer Polypropylene, high density polyethylene, medium density polyethylene, straight chain-like polyethylene, Polyester, such as a polyvinyl chloride, polyethylene terephthalate, and polybutylene terephthalate, the resin film which made the thermoplastics whose melting points, such as a polyamide, are 127-264 degrees C contain the end of non-subtlety fine powder eight to 65% of the weight — or the film which carried out coating of the inorganic bulking agent content latex on the front face of this resin film, or said resin film — aluminum and SiO<sub>2</sub> etc. — the thing made to vapor-deposit can be mentioned. Even if such a base material layer is a monolayer, it may be the film of multilayer structure with which the laminating of [ more than a bilayer ] was carried out. In the case of the resin film of such multilayer structure, a laminating can be carried out by the approach by the co-extrusion, or the approach by lamination.

[0013] \*\* The low temperature of 20 degrees C or more, and independent or the heat-sealing nature resin which consists of two or more sorts of mixture (B, B') of the thermoplastics which has the melting point of 78-145 degrees C preferably is used for the rear-face side (side which touches a resin container) of the resin film of the glue line aforementioned base material layer from the melting point of the raw material resin (A) of this base material layer. The melting point of thermoplastics is the temperature of the peak of the DSC curve when measuring 3-10mg of sample resin by part for programming-rate/of 5 degrees C with a differential heat scan analyzer (DSC) here.

[0014] As such a heat-sealing nature resin constituent, ethylene system resin, such as a metal salt (Zn, aluminum, Li, K, Na) of high density polyethylene, semi-gross density and low density polyethylene, direct chain-line-like polyethylene, an ethylene-vinylacetate copolymer, an ethylene acrylic-acid copolymer, an ethylene acrylic-acid alkyl ester copolymer, an ethylene alkyl methacrylate ester copolymer (the carbon number of an alkyl group is 1-8), and an ethylene methacrylic-acid copolymer, is used. Mixture with 90 - 45 % of the weight is good more than a kind of the resin with which especially the resin (C) of parison was chosen from 10 - 55 % of the weight (consistency: 0.88 - 0.94 g/cm<sup>3</sup>, 10 melt index: 0.05-30g /, minutes) of direct chain-line-like low density polyethylene, low density polyethylene, the ethylene methacrylic-acid copolymer, the ethylene acrylic-acid copolymer, and the ethylene-vinylacetate copolymer in the case of polypropylene or high density polyethylene. A transparent film is sufficient as this heat-sealing nature resin layer, and even if it has not extended, it may be extended. It is good to have not carried out crystal orientation, even if extended preferably. The laminated-structure film after said embossing is usually preferably extended by the one direction 4 to 10 times 3.5 to 12 times at least. This drawing is temperature lower than the melting point of the resin of a base material layer, and is performed at the temperature more than the melting point of heat-sealing nature resin. Although orientation of the base material layer is carried out by this drawing, orientation of the heat-sealing nature resin layer is not carried out.

[0015] (c) Total The laminated film which carried out the laminating of the heat-sealing nature resin to the growth above-mentioned base material layer is extended by the one direction at least. This drawing is extended 4 to 7 times in a lengthwise direction, and is usually preferably extended by the longitudinal direction 5 to 10 times 3.5 to 12 times 3.5 to 10 times especially preferably [ it is desirable and ] 4 to 10 times three to 12 times.

[0016] (d) Meat Generally 30 micrometers - the 300 micrometers of the total thickness of a thickness label are 45-200 micrometers preferably. Generally 1-30 micrometers of thickness of the adhesives layer of the label which has this inner heat-sealing nature resin are 2 micrometers - 20 micrometers preferably.

[0017] (e) If the laminated film after the other processing aforementioned drawings (synthetic paper) is required, surface printing nature and an adhesive property are improvable by performing corona discharge processing, flame treatment, plasma treatment, etc. Moreover, printing is usually performed to the front-face side of said base material layer, for example, a paper-like layer. As such printing, there are gravure, offset printing, flexographic printing, screen-stencil, etc., and a trade name, the manufacturer, a sale firm name, the character, a bar code, operation, etc. can be printed by this.

[0018] (f) It is important for the label used for the manufacture approach of the container with a label of identification marking this invention that identification marking is prepared. As this identification marking, printing in the embossing pattern of wire gauges 40-200 (number of the line per inch), punching of 1-10mmphi, a perforation, Braille points, and foaming ink etc. can be mentioned. these identification marking is independent in at least one kind of identification marking — or it can use together and use.

[0019] (i) As embossing encaustic wire gauge 40-200 embossing pattern of 40-200 wire gauges, they are a line, a trapezoid, a grid, etc.

(ii) As punching punching, it is an open beam thing about an about 2-6mm hole preferably 1-10mm, for example. As a configuration of a hole, it can consider as various kinds of configurations, such as a round head, a rectangular head, a triangle, and a star type.

(iii) as a perforation perforation, 1-5mm, it is about 2-3mm in spacing preferably, and put on pore with a magnitude of about 0.3-0.6mm continuously preferably width of face of 0.3-1mm — \*\*\*\*\* is made.

(iv) as Braille-points Braille points — 2-5mm — desirable — spacing of about 3-4mm — it is — 3x3 to 12x12mm angle — embossing of the magnitude of 5x5 to 10x10mm angle extent is prepared preferably.

[0020] (g) The label for containers with which the surprise processing above-mentioned printing and identification marking were given is separated into the label of a required configuration and a dimension by surprise processing. Although this label may be a partial thing stuck on a part of container front face, it can be formed as a blank which usually surround the lateral portion of a cup-like container.

[0021] [II] In mould shaping (1) \*\* In order to make a label equipped with \*\*\*\*\* identification marking into the container made of resin, and one, after making it arrange so that this identification marking may touch the wall surface in an in mould molding die, in mould shaping is carried out.

[0022] (2) \*\* As the above-mentioned in mould shaping for carrying out welding of the form label so that it may be united in the container made of resin, a vacuum forming, pressure forming, blow molding, matched-die shaping, or injection molding can be mentioned.

(a) After arranging a vacuum forming or pressure-forming identification marking so that the wall surface in an in mould molding die may be touched, this melting resin sheet is led in metal mold, and it is made reduced pressure, or carries out by the approach of the well-known vacuum forming using compressed-air gas, and/or pressure forming.

[0023] (b) After arranging blow molding identification marking so that the wall surface in an in mould molding die may be touched, melting parison is drawn in metal mold and it carries out by the approach of well-known blow molding.

On the manufacture concrete target of a hollow container, beforehand the discernment side of said label, for example to a metal

mold side After turning and inserting a glue line side inside a metal mold internal surface, the parison of thermoplastics, such as polypropylene resin or high-density-polyethylene resin which carried out melting kneading with the extruder, is hung at the temperature of 170 degrees C – 250 degrees C in this metal mold. After closing the end by eye a mold clamp, 0.5–10kg/cm<sup>2</sup> of parisons is expanded inside this parison G and by introducing 2–5kg/cm<sup>2</sup> of compressed gas of G preferably. While pressing the field of the outside of parison to the wall of metal mold by this and fabricating this parison in the configuration where the configuration of metal mold was met After pasting up the parison fused to the glue line of the label inserted to the wall of said metal mold, fusing the resin of the glue line of a label and carrying out welding of parison and the glue line of a label, it cools, and a blow molded container with an aperture and a label is picked out from metal mold, and metal mold is manufactured.

[0024] (c) After arranging injection-molding identification marking so that the wall surface in an in mould molding die may be touched, one can be made to carry out welding of the label to the container made of resin by the usual injection-molding method for injection molding melting resin.

[0025] [III] The container with a label which is more than a label attachment container, and was made and manufactured is the good thing which has few generating of a blister, and since a molding cycle is short and shaping cost is also cheap, it can be used as general-purpose containers, such as a shampoo bottle, an edible-oil bottle, a motor oil container, a toilet sterilization solvent container, and its allogene activity various containers.

[0026]

[Example] The example of an experiment shown below explains this invention still more concretely.

On one side of the synthetic paper "YUPO FPG-80" (trade name: 31% of void contents) which consists of a fine porosity polypropylene oriented film by manufacture Oji-Yuka Synthetic Paper of the label an example 1 – for 3(1) in moulds Coating of "ADOKOTO X33P5 [the toluene solution of an ethylene-vinylacetate copolymer (crystallization temperature of 58 degrees C measured by DSC)]" is carried out in the coverage of 4 g/m<sup>2</sup>. an Oriental Morton thermo-sensitive heat-sealing agent — drying — further — a heat-sealing agent — objection — respectively — (\*\*) — the object for a hair shampoo (example 1), and (\*\*) — the object for hair rinses (example 2) and printing for a body (Ha) shampoo (example 3) were performed. Subsequently, while giving complete embossing of a wire gauge 60 to the label for a (b) hair shampoo, six punching with a diameter of 5mm is opened. While giving both-sides side embossing of a wire gauge 100 to the label for (b) hair rinses, five punching with a diameter of 5mm is opened. While embossing a wire gauge 120 to the 1/4th page of the label for a body shampoo, four pieces and five punching with a diameter of 3mm are opened for punching with a diameter of 5mm. (Ha) the above-mentioned (\*\*) — the shampoo for hair (example 1), and (\*\*) — a hair rinse (example 2) — and the magnitude of a body (Ha) shampoo (example 3) — respectively — as the 10cmx10cm label for in moulds — piercing — (\*\*) — the label for a shampoo for hair, and (\*\*) — the label for hair rinses and the label for a body (Ha) shampoo were manufactured.

[0027] (2) blow molding — metal mold was made to equip with the label for in moulds of these so that the field (glue line) where coating of the heat-sealing agent of this label was carried out, and the field (surface layer) of an opposite hand may touch the wall surface of metal mold Subsequently, in this metal mold, "high-density-polyethylene BZ-50" by Mitsubishi Chemical was extruded with the "V-50 mold blow molding machine" By Placo, and parison was extruded with the resin temperature of 200 degrees C. And a mold aperture is carried out after supplying the compressed air with a pressure of 5kg/cm<sup>2</sup> in parison after inserting this parison with the metal mold which cooled 20-degree C cooling water by 30L the amount of water for /, and carrying out size enlargement of the parison to this metal mold wall. (\*\*) 200mm and whose thickness 60mm and height are 1mm for a drum diameter — the hollow container for a hair shampoo (example 1), and (\*\*) — it fabricated as the hollow container for hair rinses (example 2), and a hollow container for a body (Ha) shampoo (example 3).

[0028] (3) Criticism The hollow container for a \*\*\*\*\* (b) hair shampoo, the hollow container for (b) hair rinses, And the result of having examined and got the hollow container for a body (Ha) shampoo by ten totally blind persons who taught the identifying method beforehand, The container which six punching with a complete embossing and a diameter of 5mm was able to open [ all the members ] is 600 yen of the hollow container for a (b) hair shampoo. The container which five punching with a both-sides side embossing and a diameter of 5mm was able to open is 500 yen of the hollow container for (b) hair rinses. And the container which was able to open four pieces and five punching with a diameter of 3mm for punching with 1/4 embossing and a diameter of 5mm applied simply that it was a hollow container for a body (Ha) shampoo.

[0029]

[Effect of the Invention] Since it is the embossing pattern of 40–200 wire gauges, punching, a perforation, and the label with which identification marking of Braille points was given discriminable also to a person visually handicapped [, such as a blind person, ] and the label can be read at the feel of a hand, such a manufacture approach of the label attachment container of this invention can be purchased after getting to know the contents in a container also to a person visually handicapped [, such as a blind person, ], or can be used. Therefore, by the manufacture manufacturer, since what is necessary is just to only give identification marking to a label even if it does not change the molding die of a container for every class of contents in a container, or grade, the class of metal mold can be lessened and the cost rise of a product can be controlled.

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**TECHNICAL FIELD**

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[Field of the Invention] This invention relates to the manufacture approach of the label attachment container which welded at one the label which gave identification marking discriminable even to a person visually handicapped [, such as a blind person, ] to the container made of resin.

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**PRIOR ART**

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[Description of the Prior Art] Conventionally, in order that the usual container may display a class, a manufacture manufacturer, etc. of contents in a container, the label with which printing was performed is stuck, and purchase and an activity are made after a purchaser and a user check the pattern of these labels, and the display of an alphabetic character by the eye. However, unless it was after it reads the configuration of the container etc. at the feel of a hand since the display of these labels cannot be checked by the eye, or reading and getting a label from those who can see, it is able to purchase and an activity was not able to be carried out to a person visually handicapped [, such as a blind person, ]. Therefore, by the manufacture manufacturer, changing the configuration of the body of a container for every class of the contents or \*\*\*\*\*\*, or changing the configuration of the lid of a container etc., and putting marks, such as a projection of a special rib configuration, on the body of a container was made so that it could purchase easily also to a person visually handicapped [, such as a blind person, ]. For example, preparing the configuration of concavo-convex relief (sculpture) etc. in the container, and reading at the feel of a hand is indicated by invention given in JP,63-317462,A, JP,1-267159,A, and JP,2-13932,A.

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**EFFECT OF THE INVENTION**

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[Effect of the Invention] Since it is the embossing pattern of 40-200 wire gauges, punching, a perforation, and the label with which identification marking of Braille points was given discriminable also to a person visually handicapped [, such as a blind person, ] and the label can be read at the feel of a hand, such a manufacture approach of the label attachment container of this invention can be purchased after getting to know the contents in a container also to a person visually handicapped [, such as a blind person, ], or can be used. Therefore, by the manufacture manufacturer, since what is necessary is just to only give identification marking to a label even if it does not change the molding die of a container for every class of contents in a container, or grade, the class of metal mold can be lessened and the cost rise of a product can be controlled.

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**TECHNICAL PROBLEM**

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[Problem(s) to be Solved by the Invention] However, changing the configuration of the body of a container in this way, or changing the configuration of the lid of a container etc., and putting a special mark on the body of a container had to change the molding die of a container for every class of contents in the container, or grade, its class of container molding die increased as the result, and this had affected the cost rise of a product.

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MEANS

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[Means for Solving the Problem] this invention person used to come to complete this invention based on knowledge that a label attachment container with little effect is obtained by cost by fabricating the container made of resin using the label which gave identification marking, as a result of having changed the configuration of the body of a container, or a lid, or being unable to identify contents or repeating research wholeheartedly in view of the above-mentioned trouble, without putting a special mark on the body of a container. Namely, the manufacture approach of the label attachment container of this invention To the front face of a fine porosity resin oriented film whose void content is 5 – 60%, it is (i). The embossing pattern of 40-200 wire gauges, (ii) Punching (iii), The label which gave at least one kind of identification marking chosen from a perforation and the (iv) Braille points After arranging in metal mold so that this identification marking may touch a metal mold wall, it is characterized by performing in mould shaping within this metal mold, and making one carry out welding of this label to the container made of resin.

[0005]

[Embodiment of the Invention]

[i] Label attachment container (1) Body of a container (a) Base In the manufacture approach of the label attachment container of material this invention As a raw material for the bodies of a container used for in mould shaping which makes attachment of a label and shaping of a container one within metal mold Although the well-known thermoplastics used in case various containers are manufactured by the shaping approaches, such as blow molding, injection molding, differential pressure shaping (a vacuum forming, pressure forming), press forming, and foaming, can be used, it is desirable to use the thermoplastics especially whose melting point is 135–264 degrees C. As an example of such thermoplastics, it is 3 polypropylene and the consistency of 0.880–0.965g/cm. Poly CHIREN, polystyrene, a polyacrylonitrile, a polyvinyl chloride, polyethylene terephthalate, a polyamide, a polycarbonate, etc. can be mentioned. Especially in these thermoplastics, it is desirable to use polypropylene and high density poly. CHIREN. Moreover, you may use as a layered product, and two or more sorts may be blended and used.

[0006] (b) Form The thing of various configurations can be used as a configuration of the \*\* above-mentioned container.

[0007] (2) It is used for the manufacture approach of the label attachment container of label this invention, and the label which consists of a fine porosity resin oriented film for in mould shaping which gave identification marking which consists of following structure and a following raw material as a label which welds to the above-mentioned container and is united is used.

[0008] (a) Style The label which gave \*\*\*\*\* identification marking is the thing which the structure made the thing of the two-layer structure which consists of fundamentally a base material layer and a glue line which consists of heat-sealing nature resin by which the laminating was carried out to the rear-face side of this base material layer, or 3 in which the paper-like layer of the uniaxial-stretching object of a resin film which contains the end of non-subtlety fine powder in a front-face side further was formed layer systems, or the thing further made into multilayer structure. Although such a label is a slip-like before being stuck on a container within metal mold, after attachment is united with a container. It is desirable to use the label of the structure more specifically shown below.

[0009] \*\* As an ingredient which consists of base material layer usual, a base material layer, and a glue line, and is used as this base material layer polypropylene and a line — polyethylene, high density polyethylene, and polystyrene — A polyacrylonitrile, a polyvinyl chloride, polyethylene terephthalate, the resin film which made the thermoplastics whose melting points, such as a polycarbonate and a polyamide, are 135–264 degrees C contain the end of non-subtlety fine powder eight to 65% of the weight — or They are aluminum or SiO<sub>2</sub> to the film which carried out coating of the inorganic bulking agent content latex on the front face of this resin film, or said resin film. The thing made to vapor-deposit can be mentioned. Even if such a base material layer is a monolayer, it may be the structure where the laminating of [ more than a bilayer ] was carried out.

[0010] \*\* The laminating of the film layer which the melting points, such as a metal salt of the low density polyethylene used as a glue line, a vinyl acetate ethylene copolymer, ethylene and (meta) an acrylic-acid copolymer, and an ethylene and (meta) an acrylic-acid copolymer, become from the heat-sealing nature resin which is 85–135 degrees C is carried out to the rear-face side (side which touches a resin container) of the resin film of the glue line aforementioned base material layer. By the laminating of this heat-sealing nature resin film layer, adhesion with a label and a resin container can be strengthened more.

[0011] (b) Base Material (component)

As a raw material used as a label in the manufacture approach of the label attachment container of this invention, 10 – 45% of fine porosity resin oriented film is preferably used for a void content 5 to 60%. As a raw material in the case of the label of the above-mentioned structure, it becomes being the following, for example.

[0012] \*\* As an ingredient used as a base material layer base material layer Polypropylene, high density polyethylene, medium density polyethylene, straight chain-like polyethylene, Polyester, such as a polyvinyl chloride, polyethylene terephthalate, and polybutylene terephthalate, the resin film which made the thermoplastics whose melting points, such as a polyamide, are 127–264 degrees C contain the end of non-subtlety fine powder eight to 65% of the weight — or the film which carried out coating of the inorganic bulking agent content latex on the front face of this resin film, or said resin film — aluminum and SiO<sub>2</sub> etc. — the thing made to vapor-deposit can be mentioned. Even if such a base material layer is a monolayer, it may be the film of multilayer structure with which the laminating of [ more than a bilayer ] was carried out. In the case of the resin film of such multilayer structure, a laminating can be carried out by the approach by the co-extrusion, or the approach by lamination.

[0013] \*\* The low temperature of 20 degrees C or more, and independent or the heat-sealing nature resin which consists of two or more sorts of mixture (B, B') of the thermoplastics which has the melting point of 78–145 degrees C preferably is used for the rear-face side (side which touches a resin container) of the resin film of the glue line aforementioned base material layer from the melting point of the raw material resin (A) of this base material layer. The melting point of thermoplastics is the temperature of the peak of the DSC curve when measuring 3–10mg of sample resin by part for programming-rate/of 5 degrees C with a differential heat scan analyzer (DSC) here.

[0014] As such a heat-sealing nature resin constituent, ethylene system resin, such as a metal salt (Zn, aluminum, Li, K, Na) of high density polyethylene, semi-gross density and low density polyethylene, direct chain-line-like polyethylene, an ethylene-vinylacetate copolymer, an ethylene acrylic-acid copolymer, an ethylene acrylic-acid alkyl ester copolymer, an ethylene alkyl methacrylate ester copolymer (the carbon number of an alkyl group is 1–8), and an ethylene methacrylic-acid copolymer, is used. Mixture with 90 – 45 % of the weight is good more than a kind of the resin with which especially the resin (C) of parison was chosen from 10 – 55 % of the weight (consistency: 0.88 – 0.94 g/cm<sup>3</sup>, 10 melt index:0.05–30g /, minutes) of direct chain-line-like low density polyethylene, low density polyethylene, the ethylene methacrylic-acid copolymer, the ethylene acrylic-acid

copolymer, and the ethylene-vinylacetate copolymer in the case of polypropylene or high density polyethylene. A transparent film is sufficient as this heat-sealing nature resin layer, and even if it has not extended, it may be extended. It is good to have not carried out crystal orientation, even if extended preferably. The laminated-structure film after said embossing is usually preferably extended by the one direction 4 to 10 times 3.5 to 12 times at least. This drawing is temperature lower than the melting point of the resin of a base material layer, and is performed at the temperature more than the melting point of heat-sealing nature resin. Although orientation of the base material layer is carried out by this drawing, orientation of the heat-sealing nature resin layer is not carried out.

[0015] (c) Total The laminated film which carried out the laminating of the heat-sealing nature resin to the growth above-mentioned base material layer is extended by the one direction at least. This drawing is extended 4 to 7 times in a lengthwise direction, and is usually preferably extended by the longitudinal direction 5 to 10 times 3.5 to 12 times 3.5 to 10 times especially preferably [ it is desirable and ] 4 to 10 times three to 12 times.

[0016] (d) Meat Generally 30 micrometers – the 300 micrometers of the total thickness of a thickness label are 45–200 micrometers preferably. Generally 1–30 micrometers of thickness of the adhesives layer of the label which has this inner heat-sealing nature resin are 2 micrometers – 20 micrometers preferably.

[0017] (e) If the laminated film after the other processing aforementioned drawings (synthetic paper) is required, surface printing nature and an adhesive property are improvable by performing corona discharge processing, flame treatment, plasma treatment, etc. Moreover, printing is usually performed to the front-face side of said base material layer, for example, a paper-like layer. As such printing, there are gravure, offset printing, flexographic printing, screen-stencil, etc., and a trade name, the manufacturer, a sale firm name, the character, a bar code, operation, etc. can be printed by this.

[0018] (f) It is important for the label used for the manufacture approach of the container with a label of identification marking this invention that identification marking is prepared. As this identification marking, printing in the embossing pattern of wire gauges 40–200 (number of the line per inch), punching of 1–10mmphi, a perforation, Braille points, and foaming ink etc. can be mentioned. these identification marking is independent in at least one kind of identification marking — or it can use together and use.

[0019] (i) As embossing encaustic wire gauge 40–200 embossing pattern of 40–200 wire gauges, they are a line, a trapezoid, a grid, etc.

(ii) As punching punching, it is an open beam thing about an about 2–6mm hole preferably 1–10mm, for example. As a configuration of a hole, it can consider as various kinds of configurations, such as a round head, a rectangular head, a triangle, and a star type.

(iii) as a perforation perforation, 1–5mm, it is about 2–3mm in spacing preferably, and put on pore with a magnitude of about 0.3–0.6mm continuously preferably width of face of 0.3–1mm — \*\*\*\*\* is made.

(iv) as Braille-points Braille points — 2–5mm — desirable — spacing of about 3–4mm — it is — 3x3 to 12x12mm angle — embossing of the magnitude of 5x5 to 10x10mm angle extent is prepared preferably.

[0020] (g) The label for containers with which the surprise processing above-mentioned printing and identification marking were given is separated into the label of a required configuration and a dimension by surprise processing. Although this label may be a partial thing stuck on a part of container front face, it can be formed as a blank which usually surround the lateral portion of a cup-like container.

[0021] [II] In mould shaping (1) \*\* In order to make a label equipped with \*\*\*\*\* identification marking into the container made of resin, and one, after making it arrange so that this identification marking may touch the wall surface in an in mould molding die, in mould shaping is carried out.

[0022] (2) \*\* As the above-mentioned in mould shaping for carrying out welding of the form label so that it may be united in the container made of resin, a vacuum forming, pressure forming, blow molding, matched-die shaping, or injection molding can be mentioned.

(a) After arranging a vacuum forming or pressure-forming identification marking so that the wall surface in an in mould molding die may be touched, this melting resin sheet is led in metal mold, and it is made reduced pressure, or carries out by the approach of the well-known vacuum forming using compressed-air gas, and/or pressure forming.

[0023] (b) After arranging blow molding identification marking so that the wall surface in an in mould molding die may be touched, melting parison is drawn in metal mold and it carries out by the approach of well-known blow molding.

On the manufacture concrete target of a hollow container, beforehand the discernment side of said label, for example to a metal mold side After turning and inserting a glue line side inside a metal mold internal surface, the parison of thermoplastics, such as polypropylene resin or high-density-polyethylene resin which carried out melting kneading with the extruder, is hung at the temperature of 170 degrees C – 250 degrees C in this metal mold. After closing the end by eye a mold clamp, 0.5–10kg/cm<sup>2</sup> of parisons is expanded inside this parison G and by introducing 2–5kg/cm<sup>2</sup> of compressed gas of G preferably. While pressing the field of the outside of parison to the wall of metal mold by this and fabricating this parison in the configuration where the configuration of metal mold was met After pasting up the parison fused to the glue line of the label inserted to the wall of said metal mold, fusing the resin of the glue line of a label and carrying out welding of parison and the glue line of a label, it cools, and a blow molded container with an aperture and a label is picked out from metal mold, and metal mold is manufactured.

[0024] (c) After arranging injection-molding identification marking so that the wall surface in an in mould molding die may be touched, one can be made to carry out welding of the label to the container made of resin by the usual injection-molding method for injection molding melting resin.

[0025] [II] The container with a label which is more than a label attachment container, and was made and manufactured is the good thing which has few generating of a blister, and since a molding cycle is short and shaping cost is also cheap, it can be used as general-purpose containers, such as a shampoo bottle, an edible-oil bottle, a motor oil container, a toilet sterilization solvent container, and its allogene activity various containers.

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EXAMPLE

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[Example] The example of an experiment shown below explains this invention still more concretely.

On one side of the synthetic paper "YUPO FPG-80" (trade name: 31% of void contents) which consists of a fine porosity polypropylene oriented film by manufacture Oji-Yuka Synthetic Paper of the label an example 1 — for 3(1) in moulds Coating of "ADOKOTO X33P5 [the toluene solution of an ethylene-vinylacetate copolymer (crystallization temperature of 58 degrees C measured by DSC)]" is carried out in the coverage of 4 g/m<sup>2</sup>. an Oriental Morton thermo-sensitive heat-sealing agent — drying — further — a heat-sealing agent — objection — respectively — (\*\*) — the object for a hair shampoo (example 1), and (\*\*) — the object for hair rinses (example 2) and printing for a body (Ha) shampoo (example 3) were performed. Subsequently, while giving complete embossing of a wire gauge 60 to the label for a (b) hair shampoo, six punching with a diameter of 5mm is opened. While giving both-sides side embossing of a wire gauge 100 to the label for a (b) hair rinses, five punching with a diameter of 5mm is opened. While giving both-sides side embossing of a wire gauge 120 to the 1/4th page of the label for a body shampoo, four pieces and five punching with a diameter of 3mm are opened for punching with a diameter of 5mm. (Ha) the above-mentioned (\*\*) — the shampoo for hair (example 1), and (\*\*) — a hair rinse (example 2) — and the magnitude of a body (Ha) shampoo (example 3) — respectively — as the 10cmx10cm label for in moulds — piercing — (\*\*) — the label for a shampoo for hair, and (\*\*) — the label for hair rinses and the label for a body (Ha) shampoo were manufactured.

[0027] (2) blow molding — metal mold was made to equip with the label for in moulds of these so that the field (glue line) where coating of the heat-sealing agent of this label was carried out, and the field (surface layer) of an opposite hand may touch the wall surface of metal mold Subsequently, in this metal mold, "high-density-polyethylene BZ-50" by Mitsubishi Chemical was extruded with the "V-50 mold blow molding machine" By Placo, and parison was extruded with the resin temperature of 200 degrees C. And a mold aperture is carried out after supplying the compressed air with a pressure of 5kg/cm<sup>2</sup> in parison after inserting this parison with the metal mold which cooled 20-degree C cooling water by 30L the amount of water for /, and carrying out size enlargement of the parison to this metal mold wall. (\*\*) 200mm and whose thickness 60mm and height are 1mm for a drum diameter — the hollow container for a hair shampoo (example 1), and (\*\*) — it fabricated as the hollow container for hair rinses (example 2), and a hollow container for a body (Ha) shampoo (example 3).

[0028] (3) Criticism The hollow container for a \*\*\*\*\* (b) hair shampoo, the hollow container for (b) hair rinses. And the result of having examined and got the hollow container for a body (Ha) shampoo by ten totally blind persons who taught the identifying method beforehand. The container which six punching with a complete embossing and a diameter of 5mm was able to open [ all the members ] is 600 yen of the hollow container for a (b) hair shampoo. The container which five punching with a both-sides side embossing and a diameter of 5mm was able to open is 500 yen of the hollow container for (b) hair rinses. And the container which was able to open four pieces and five punching with a diameter of 3mm for punching with 1/4 embossing and a diameter of 5mm applied simply that it was a hollow container for a body (Ha) shampoo.

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**DESCRIPTION OF DRAWINGS**

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**[Brief Description of the Drawings]**

**[Drawing 1]** Drawing 1 is the perspective view of the hollow container for a label attachment body shampoo which stuck the label for in mould shaping which gave identification marking by embossing manufactured by the manufacture approach of the label attachment container of this invention, and large and small punching.

**[Description of Notations]**

1 Label Attachment Container

2 Label for in Moulds

3 Embossing

4 Punching (Size)

5 Punching (Smallness)

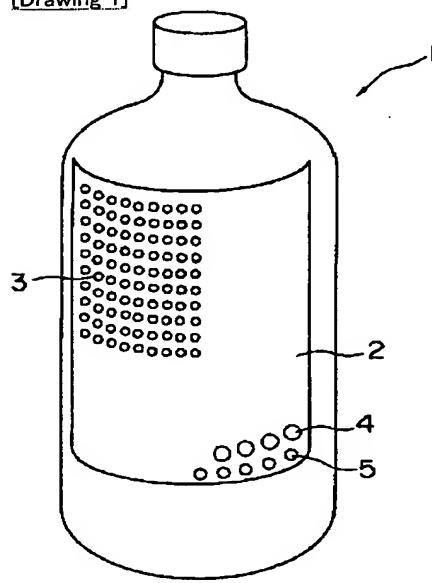
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DRAWINGS

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[Drawing 1]



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CORRECTION OR AMENDMENT

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[Kind of official gazette] Printing of amendment by the convention of 2 of Article 17 of Patent Law  
 [Category partition] The 4th partition of the 2nd category  
 [Publication date] November 18, Heisei 16 (2004. 11.18)

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 G09F 3/00

[FI]

B29C 49/24  
 B32B 5/18  
 B65C 3/26  
 G09F 3/00 S

[Procedure amendment]  
 [Filing Date] November 26, Heisei 15 (2003. 11.26)

[Procedure amendment 1]  
 [Document to be Amended] Description  
 [Item(s) to be Amended] Claim  
 [Method of Amendment] Modification  
 [The content of amendment]  
 [Claim(s)]  
 [Claim 1]

To the front face of a fine porosity resin oriented film whose void content is 5 – 60%, it is (i). The embossing pattern of 40–200 wire gauges, (ii) Punching (iii), The label which gave at least one kind of identification marking chosen from printing by the perforation and the (iv) Braille points The manufacture approach of the label attachment container characterized by performing in mould shaping within this metal mold, and making one carry out welding of this label to the container made of resin after arranging in metal mold so that this identification marking may touch a metal mold wall.

[Claim 2]  
 The manufacture approach of a label attachment container according to claim 1 that it leads a melting resin sheet in this metal mold, draws a vacuum forming, pressure forming, or melting parison, and carries out injection molding of blow molding or the melting resin after in mould shaping arranges identification marking so that a metal mold wall may be touched.

[Procedure amendment 2]  
 [Document to be Amended] Description  
 [Item(s) to be Amended] 0005  
 [Method of Amendment] Modification  
 [The content of amendment]  
 [0005]

[Embodiment of the Invention]  
 [I] Label attachment container  
 (1) The body of a container  
 (a) Base Material

As a raw material for the bodies of a container used for in mould shaping which makes attachment of a label and shaping of a container one within metal mold in the manufacture approach of the label attachment container of this invention Although the well-known thermoplastics used in case various containers are manufactured by the shaping approaches, such as blow molding, injection molding, differential pressure shaping (a vacuum forming, pressure forming), press forming, and foaming, can be used, it is desirable to use the thermoplastics especially whose melting point is 135–264 degrees C.

As an example of such thermoplastics, it is 3 polypropylene and the consistency of 0.880–0.965g/cm. Polyethylene, polystyrene, a polyacrylonitrile, a polyvinyl chloride, polyethylene terephthalate, a polyamide, a polycarbonate, etc. can be mentioned. Especially in these thermoplastics, it is desirable to use polypropylene and high density poly CHIREN. Moreover, you may use as a layered product, and two or more sorts may be blended and used.

[Procedure amendment 3]  
 [Document to be Amended] Description  
 [Item(s) to be Amended] 0008  
 [Method of Amendment] Modification  
 [The content of amendment]  
 [0008]

(a) Style \*\*  
 The label which gave the above-mentioned identification marking is the thing which the structure made the thing of the two-layer structure which consists of fundamentally a base material layer and a glue line which consists of heat-sealing nature resin by which the laminating was carried out to the rear-face side of this base material layer, or 3 in which the paper-like layer of the

uniaxial-stretching object of a resin film which contains the end of non-subtlety fine powder in a front-face side further was formed layer systems, or the thing further made into multilayer structure.

[Procedure amendment 4]

[Document to be Amended] Description

[Item(s) to be Amended] 0009

[Method of Amendment] Modification

[The content of amendment]

[0009]

Although such a label is a slip-like before being stuck on a container within metal mold, after attachment is united with a container.

[Procedure amendment 5]

[Document to be Amended] Description

[Item(s) to be Amended] 0010

[Method of Amendment] Modification

[The content of amendment]

[0010]

(b) Base Material (component)

As a raw material used as a label in the manufacture approach of the label attachment container of this invention, 10 – 45% of fine porosity resin oriented film is preferably used for a void content 5 to 60%.

[Procedure amendment 6]

[Document to be Amended] Description

[Item(s) to be Amended] 0011

[Method of Amendment] Modification

[The content of amendment]

[0011]

As a raw material in the case of the label of the above-mentioned structure, it becomes being the following, for example.

[Procedure amendment 7]

[Document to be Amended] Description

[Item(s) to be Amended] 0014

[Method of Amendment] Modification

[The content of amendment]

[0014]

As such a heat-sealing nature resin constituent, ethylene system resin, such as a metal salt (Zn, aluminum, Li, K, Na) of high density polyethylene, semi-gross density and low density polyethylene, direct chain-line-like polyethylene, an ethylene-vinylacetate copolymer, an ethylene acrylic-acid copolymer, an ethylene acrylic-acid alkyl ester copolymer, an ethylene alkyl methacrylate ester copolymer (the carbon number of an alkyl group is 1–8), and an ethylene methacrylic-acid copolymer, is used. Mixture with 90 – 45 % of the weight is good more than a kind of the resin with which especially the resin (C) of parison was chosen from 10 – 55 % of the weight (consistency: 0.88 – 0.94 g/cm<sup>3</sup>, 10 melt index: 0.05–30g /, minutes) of direct chain-line-like low density polyethylene, low density polyethylene, the ethylene methacrylic-acid copolymer, the ethylene acrylic-acid copolymer, and the ethylene-vinylacetate copolymer in the case of polypropylene or high density polyethylene.

A transparent film is sufficient as this heat-sealing nature resin layer, and even if it has not extended, it may be extended. It is good to have not carried out crystal orientation, even if extended preferably.